Fig.1

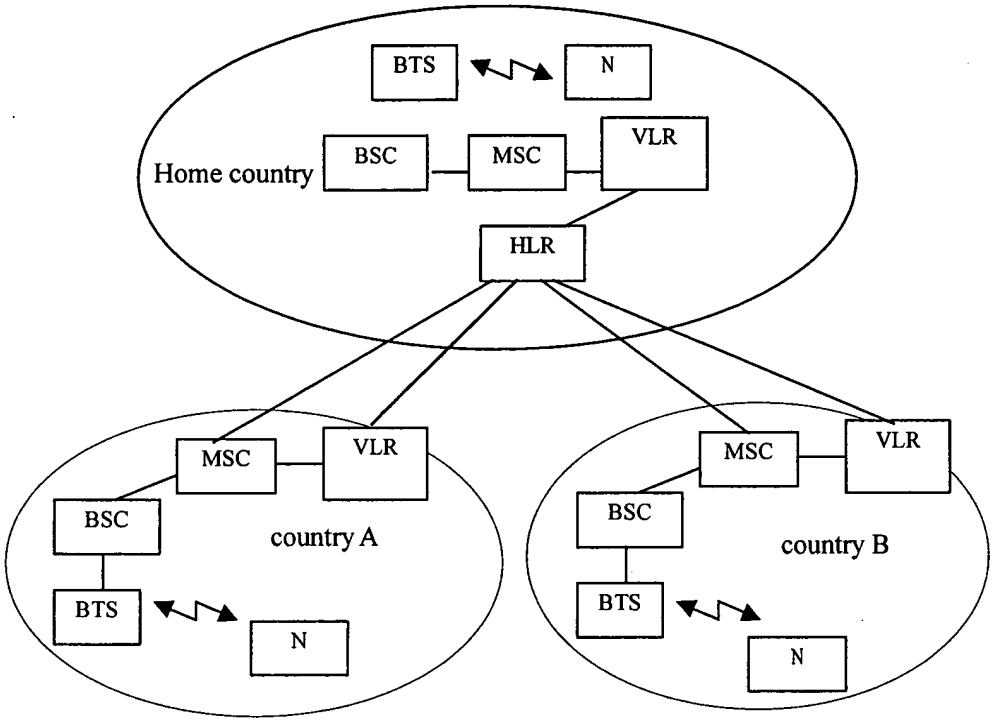

BTS
N
Home country
BSC
MSC
VLR
HLR
MSC
VLR
BSC
country A
BTS
N
MSC
VLR
BSC
country B
BTS
N

Fig.2

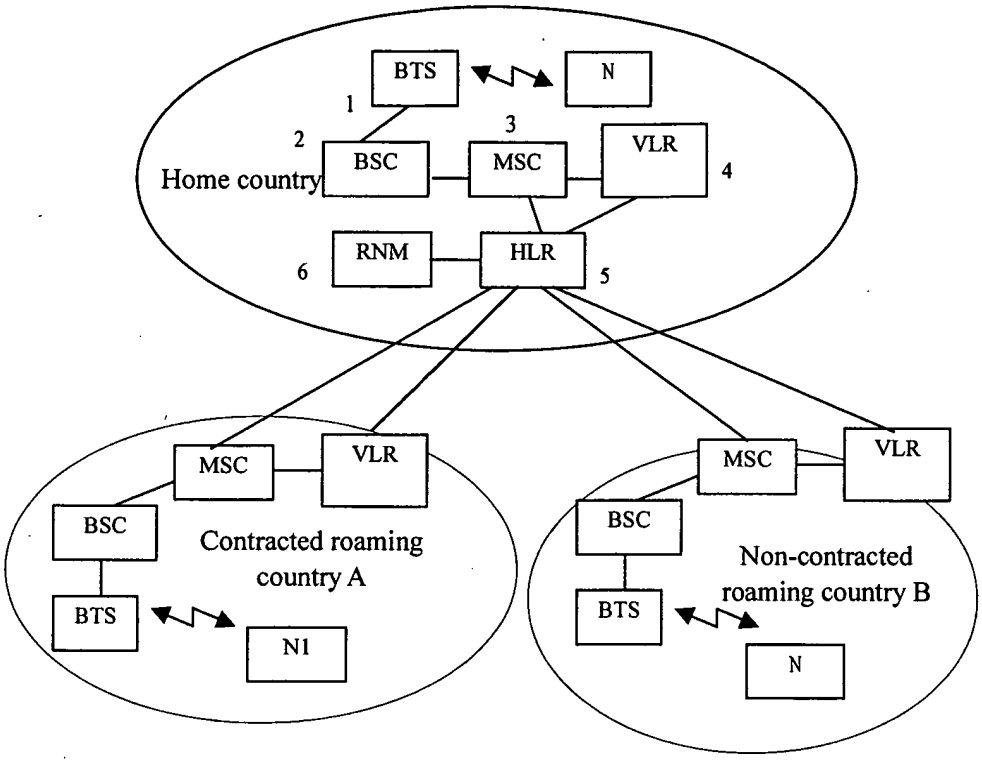

BTS
N
1
2
3
BSC
MSC
VLR
4
Home country
RNM
HLR
6
5
MSC
VLR
BSC
Contracted roaming country A
BTS
N1
MSC
VLR
BSC
Non-contracted roaming country B
BTS
N

Fig.3

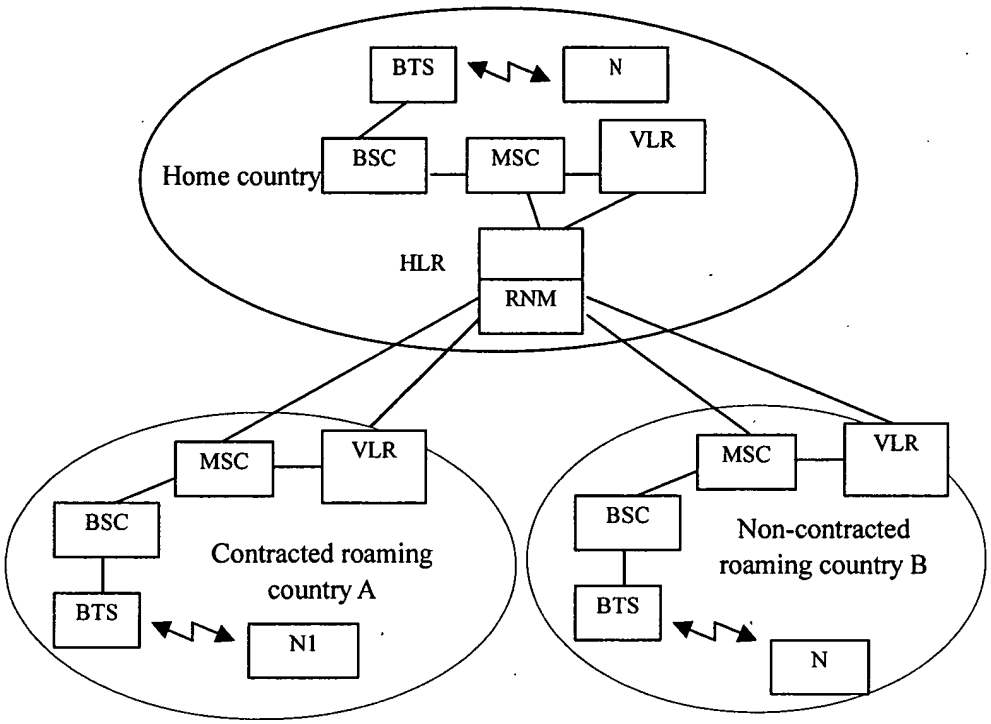
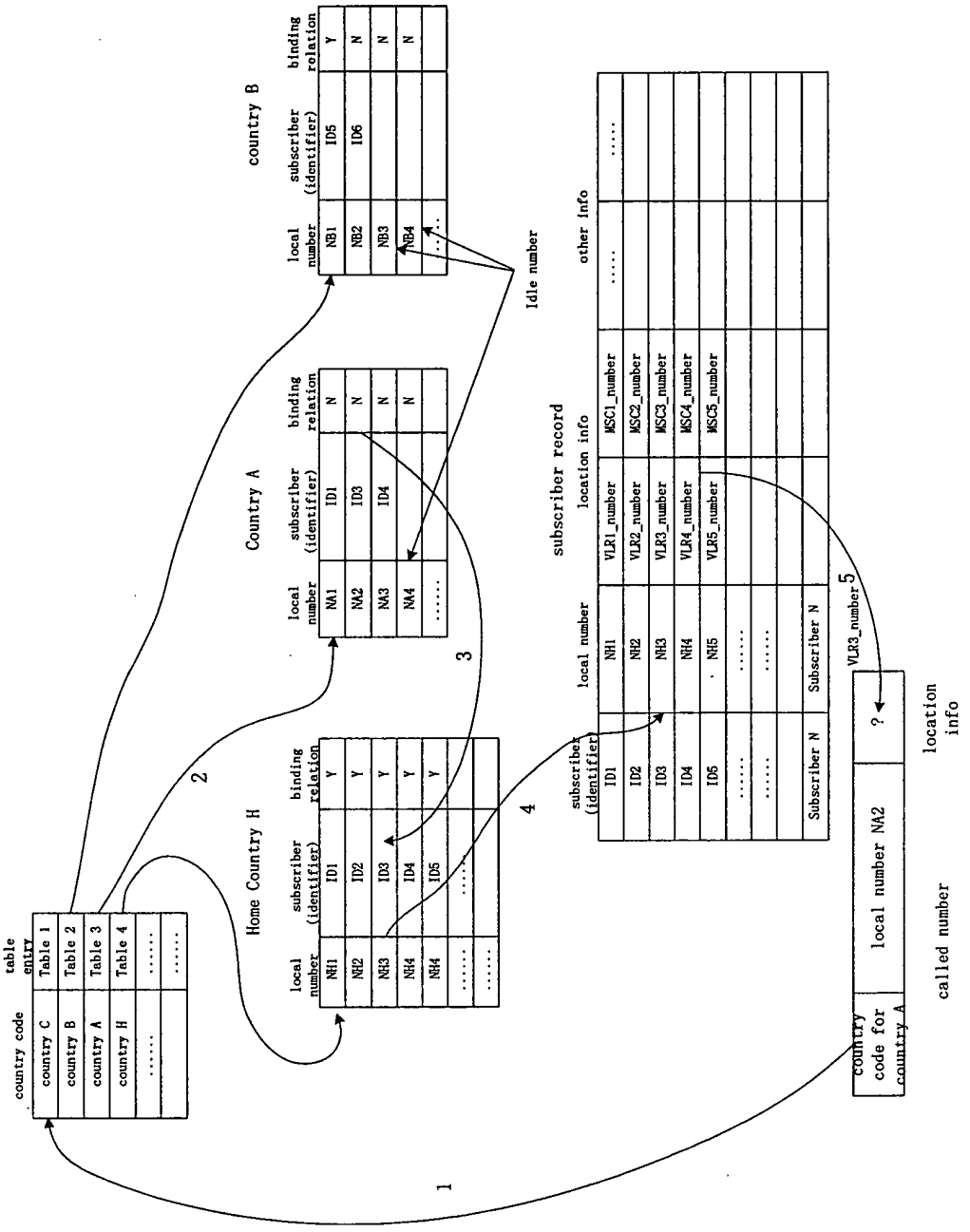

BTS
N
Home country
BSC
MSC
VLR
HLR
RNM
MSC
VLR
BSC
Contracted roaming country A
BTS
N1
MSC
VLR
BSC
Non-contracted roaming country B
BTS
N

Fig.4


country code
table entry
country C
Table 1
country B
Table 2
country A
Table 3
country H
Table 4
Home Country H
local number
subscriber (identifier)
binding relation
NH1
ID1
Y
NH2
ID2
Y
NH3
ID3
Y
NH4
ID4
Y
NH4
ID5
Y
Country A
local number
subscriber (identifier)
binding relation
NA1
ID1
N
NA2
ID3
N
NA3
ID4
N
NA4
N
country B
local number
subscriber (identifier)
binding relation
NB1
ID5
Y
NB2
ID6
N
NB3
N
NB4
N
Idle number
subscriber record
local number
subscriber (identifier)
location info
other info
VLR1_number
MSC1_number
VLR2_number
MSC2_number
VLR3_number
MSC3_number
VLR4_number
MSC4_number
VLR5_number
MSC5_number
ID1
ID2
ID3
ID4
ID5
Subscriber N
NH1
NH2
NH3
NH4
NH5
Subscriber N
VLR3_number
?
country code for country A
local number NA2
called number
location info
1
2
3
4
5

10/520482

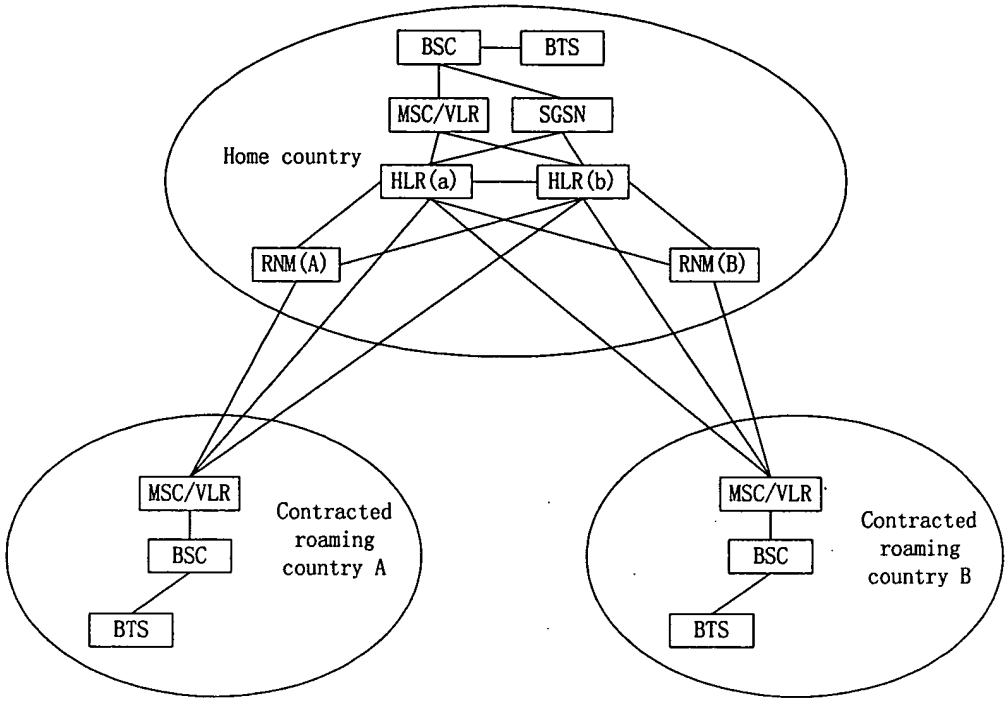


Fig. 5

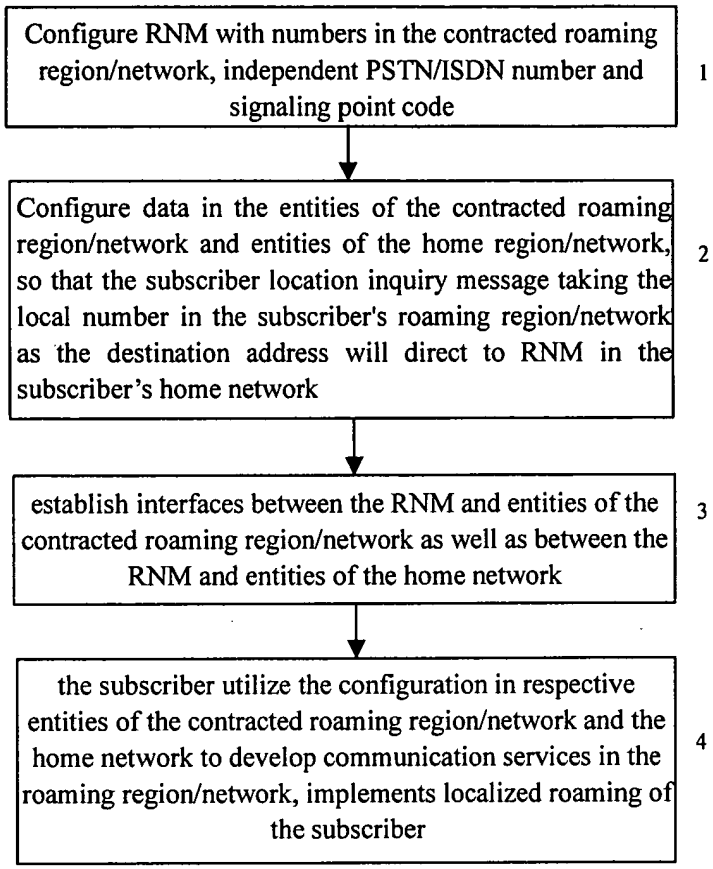

Configure RNM with numbers in the contracted roaming region/network, independent PSTN/ISDN number and signaling point code
1
Configure data in the entities of the contracted roaming region/network and entities of the home region/network, so that the subscriber location inquiry message taking the local number in the subscriber's roaming region/network as the destination address will direct to RNM in the subscriber's home network
2
establish interfaces between the RNM and entities of the contracted roaming region/network as well as between the RNM and entities of the home network
3
the subscriber utilize the configuration in respective entities of the contracted roaming region/network and the home network to develop communication services in the roaming region/network, implements localized roaming of the subscriber
4

Fig. 6

10/520482

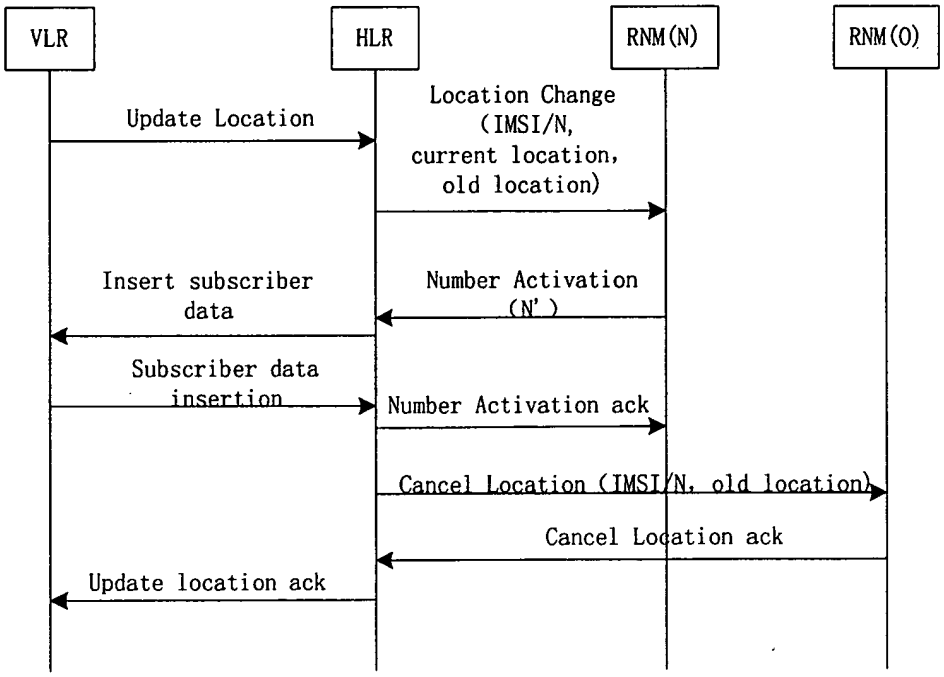


Fig. 7

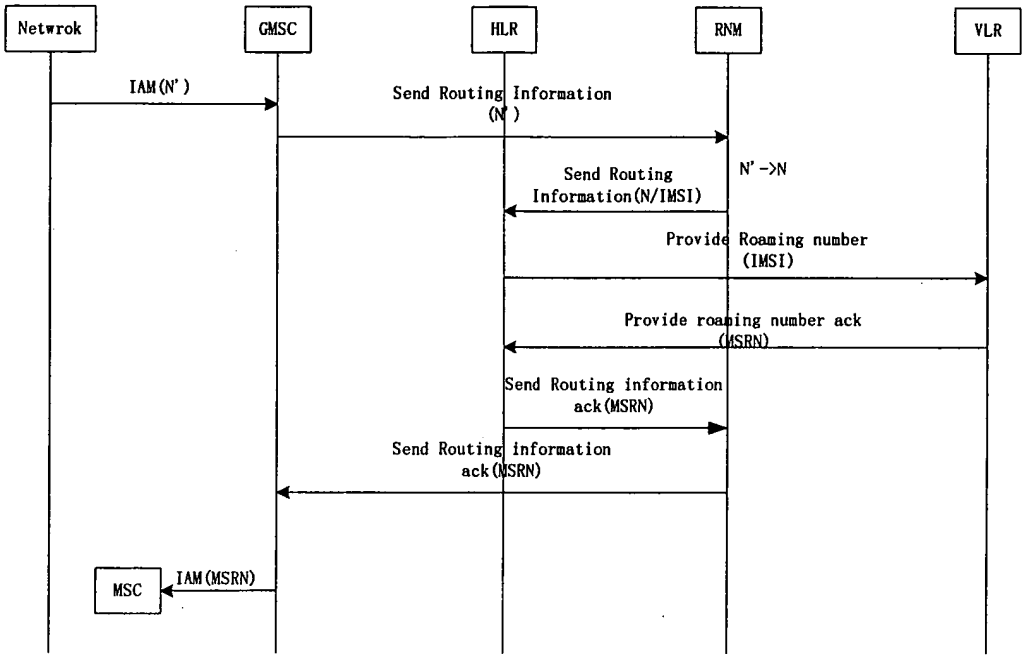

Netwrok
GMSC
HLR
RNM
VLR
IAM(N')
Send Routing Information (N')
N'->N
Send Routing Information(N/IMSI)
Provide Roaming number (IMSI)
Provide roaming number ack (MSRN)
Send Routing information ack(MSRN)
Send Routing information ack(MSRN)
MSC
IAM(MSRN)

Fig. 8

10/520482

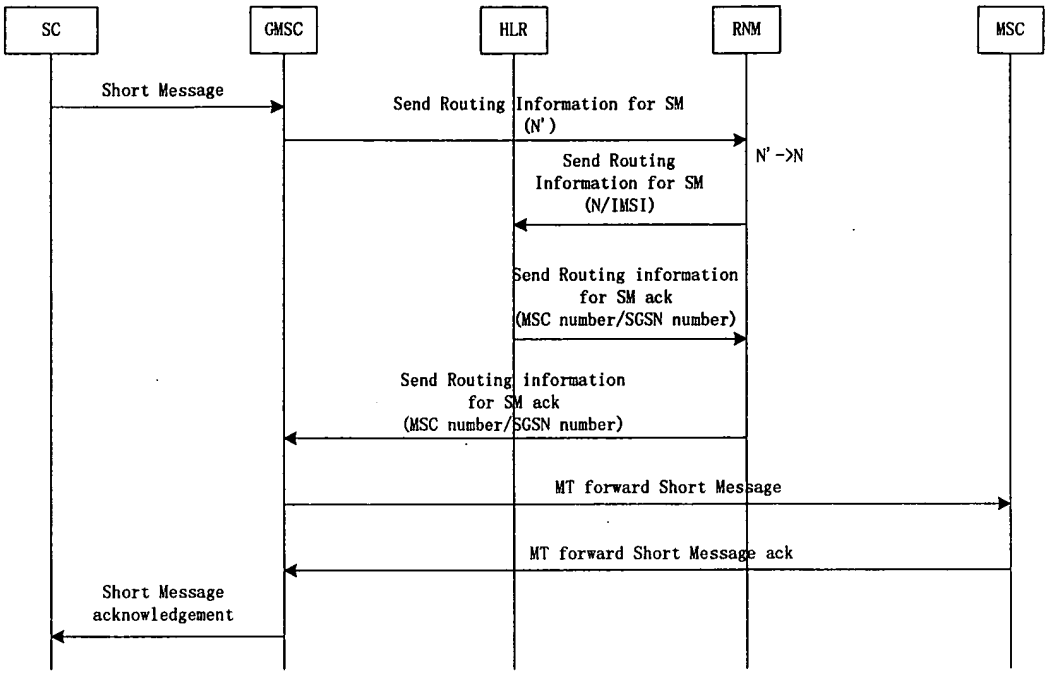


Fig. 9

10/520482

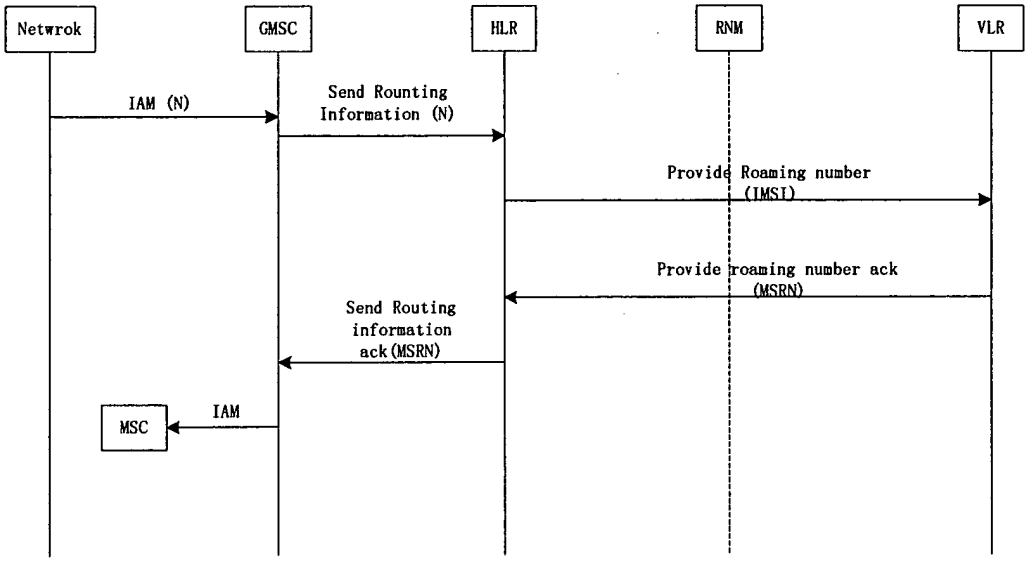


Fig. 10

10/520,492

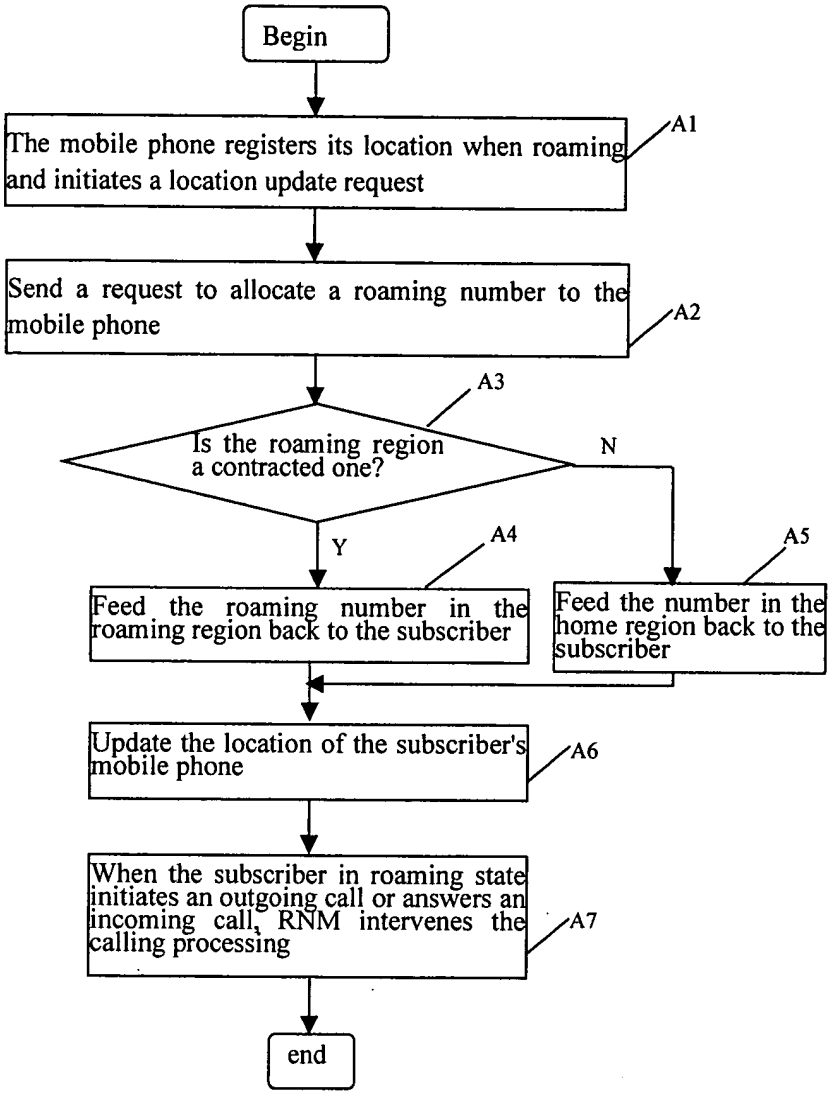


Fig. 11